The Longspur Fringe-orchid, *Habenaria conspicua*, is another example of the same general behavior. In its case there appears to have been no migration beyond the normal area on the Coastal Plain, but it does follow the Appalachians, and a form of it with the lip entire was found by Dr. Pennell and the writer in September, 1927, about 5 kilometers south of Pine Knot, Whitley County, Kentucky, this bringing it within the limits of floras of the northeastern part of the United States. A specimen of this is now in Academy of Natural Sciences, Philadelphia.

All three of these plants grow far enough north and at high enough elevations to show that they are reasonably hardy, so the question arises as to why they are limited to very restricted areas beyond their normal region. It is not a matter of moisture, for the first appears to thrive equally well in meadows which are under water half the year and on the dryest kind of gravelly mountain slopes, and the other two show distinct variation in the wetness of their habitat. It is not connected with soil temperature, for while it is true that sandy soils such as these species occupy are often considered to be "warm," the bogs in which they are usually found are generally recognized to be "cool" places. Indeed, as pointed out by Fernald,[5] in Newfoundland southern species often occupy colder places than do northern ones, the explanation being that extensive areas of acid soil occur in an especially cold part of the island, and the southern species concerned are acid-soil plants. The one feature which the various soils supporting these orchids have in common is a high degree of acidity. A simple explanation of their isolation is, then, that beyond their normal areas these species are able to withstand the more or less unfavorable environmental conditions only when particularly well nourished, and their physiology chances to be such that they can best obtain the nutriment they require in strongly acid soils, which are only locally well developed in situations where the plants can grow at all.

The distribution of the Crested Coralroot Orchid, *Hexalectris spicata*, has already been discussed.[6] It crosses the Virginia Coastal Plain along marl outcrops, and even extends into Maryland on an Indian shell-heap. Farther west it reaches fairly high elevations in the mountains of Virginia, and enters Indiana, where the climate is by no means mild. Though occasionally growing in acid upland peat, it becomes luxuriant only in relatively rich soils.

[5] FERNALD, Amer. Journ. Bot. 5: 237. 1918.
[6] WHERRY, This JOURNAL 17: 35. 1927.

The little brown-flowered orchid, which is best characterized as the Two-leaf Adder's-mouth, *Malaxis spicata*, has not heretofore been reported as growing north of Florida. That its range was wider by two States was shown when it was found by Mr. H. W. Trudell and the writer in June, 1922, near Monck's Corner, Berkeley County, South Carolina, growing in marl thrown out in the digging of the Santee Canal. A specimen has been placed in New York Botanical Garden. In August, 1927, an additional two-State extension of range was indicated when it was discovered in southern Gloucester County, Virginia, by Miss Jennie S. Jones, of Richmond. A specimen of the orchid found by Miss Jones is in the United States National Herbarium. Another colony was found a month later near Williamsburg, Virginia, by Mr. E. A. Eames, of Buffalo, New York. In both these places the plant grows in rich soil where marl outcrops near ravine-bottoms.

The Shadow-witch Orchid, *Ponthieva racemosa*, was apparently collected in Virginia by Clayton, for Gronovius[7] listed a "SERAPIAS *foliis ovatis radicalibus, scapo nudo multifloro.* Orchis s. Bifolium aquaticum autumnalis flore herbaceo, caule aphyllo, foliis subrotundis plantagineis, radice palmata. Clayton 1 & 138" which clearly describes this species. It was then lost sight of for more than 150 years, until it was rediscovered by the late E. J. Grimes[8] in 1920. The writer has observed it in several localities in James City, York, and Gloucester Counties, always in rich marly soil, and in this State as well as farther south it is more or less closely associated with the two preceding species.

Like the first set of three species, the ones just discussed seem to thrive equally well in dry and in moist situations; and here, too, the temperature relations are contradictory. It is often held by ecologists that calcareous (circumneutral) soils, which are clearly favored by these three orchids, are relatively warm,[9] and this may be the case in some places. Finding certain tropical plants on isolated shell-mounds (where the soil is circumneutral) in central peninsular Florida, Small[10] suggested that heat in the spaces between the shells enables these plants to withstand cold spells. Exactly the reverse conclusion, however, could be reached elsewhere in Florida. On the circumneutral Aspalaga bluffs of the Apalachicola River many northern plants grow in isolated colonies far south of their normal areas, and here it would

[7] GRONOVIUS, *Flora Virginica*, ed. 2. 137. 1762.
[8] GRIMES, Rhodora **24**: 149. 1922.
[9] SALISBURY, Journ. Ecology **8**: 208. 1921.
[10] SMALL, Journ. N. Y. Bot. Gard. **28**: 10. 1927.

have to be argued that coolness in spaces between the shell fragments enables them to withstand Floridian heat-waves. In Virginia, moreover, the ravine-bottoms preferred by the three warmth-loving orchids are about the coolest situations on the Coastal Plain. Their isolated distribution northward, however, can be simply interpreted by the same theory of reaction-control applied in the case of the other set, to the effect that they best obtain the nutriment they require in circumneutral soils, and beyond their normal areas can withstand the unfavorable environment only in the restricted localities where such soils are prominent.

It is inferred then, that in the cases of these six orchids, and by analogy in those of hundreds of other plants which show similar distribution-relations, the chief reason for isolation beyond the normal areas is not physical (moisture or temperature) but chemical (reaction —acidity or alkalinity).

ETHNOBOTANY.—*Remedial plants of Tepoztlan: A Mexican folk herbal.*[1] ROBERT REDFIELD, University of Chicago. (Communicated by JOHN R. SWANTON.)

The present writer, who is not a botanist, has done little more than collect the plants listed below and the accompanying ethnobotanical data.[2] The identification of the plants was made by Mr. Paul C. Standley, of the United States National Museum; the Compositae were identified by Dr. S. F. Blake of the Department of Agriculture. To these gentlemen the writer is deeply indebted, and especially to Mr. Standley for further assistance and advice on pre-Linnean descriptions of Mexican flora. A further obligation is owed to Mr. Donald C. Peattie, of Rosslyn, Virginia, who placed the plants in their proper families and furnished botanical notes.

The extensive ethnobotanies which have been collected among primitive peoples testify to the high degree of completeness with which many such peoples have explored their flora. To most primitive peoples no other aspect of the natural environment is as well known. Such knowledge is not, of course scientific. It is unreflective and unsystematized, growing empirically, and never entirely dissociated from magical art. The village populations of Mexico are composed no

[1] Received February 15, 1928.

[2] This was done in the course of an ethnological study of a Mexican village, made possible by a fellowship granted in 1926–27 by the Social Science Research Council.

longer of primitive (tribal) peoples, but of a folk to whom literacy is not unknown. City ways, much diluted, reach such villages, and city cures for rationally comprehended diseases. An interesting problem in such a village lies in the extent to and manner in which the ancient folk medicine loses ground at the expense of modern treatment, and the effect this has in causing old magical behavior to disappear.

No beginning is made on such a problem in this paper, which is no more than a catalogue of some herbal remedies in use in Tepoztlan, State of Morelos, Mexico. This town was a pueblo of the Tlahuicas, a Nahuatl-speaking tribe closely allied to the Aztecs. Its name occurs in the Mendoza[3] and Magliabecchi[4] codices, and first appears in post-columbian history in the account of Bernal Diaz del Castillo.[5] Although less than fifty miles from Mexico City, Tepoztlan is still populated by people almost entirely Indian in blood. Both Nahuatl and Spanish are spoken.

It happens that Francisco Hernandez, physician to Philip II and traveler in Mexico in the sixteenth century, a man of both medical and botanical interests, visited Tepoztlan. At least it is true that a good many plants in his list[6] are described as growing at or near Tepoztlan, Yautepec or Cuernavaca—a cluster of villages in northern Morelos. The writer hoped to be able to compare the uses which Hernandez gave for plants collected three centuries ago in this region with present uses in Tepoztlan, but it proved impossible to identify more than a few on Hernandez's list with plants on the list given below. Some ancient remedial uses probably survive, as do certainly some ceremonial uses (as, for example, decoration of altars with *Plumeria*, still called *cacaloxochitl*, and ceremonial use of *Tagetes*, called *cempoalxochitl*).

The folklore of present-day Mexico is a close compound of Indian and early Spanish elements. Most of the plants in the following list are indigenous to Mexico, but a few have been introduced from Europe. Such plants are *Ruta graveolens* L., *Ricinus communis* L., *Malva parviflora* L., *Peucedanum graveolens* (L.) Benth. & Hook., *Anagallis arvensis* L., *Borago officinalis* L., *Chrysanthemum parthenium* (L.)

[3] *Plate 9* of the Kingsborough reproduction.

[4] Commentary to Section 62.

[5] *The conquest of New Spain* (Hakluyt translation), Book 10: (chap. 144) p. 67.

[6] Francisco Hernandez: *Cuatro libros de la naturaleza y virtudes de las plantas de la Neuva Espana*. Ed. by Peñafiel, Morelia, 1888 (first translated into Spanish and printed in Mexico in 1615).

Bernh., the pomegranate and the citrus fruits. These enter into the herbal pharmacopœia of Tepoztlan today, and into remedies that have precolumbian sources; but in no case, except perhaps *Ricinus communis* L., does such an introduced plant bear a Nahuatl name. No doubt the Spaniards introduced new ways of using wild plants as remedies, and no doubt they seized upon native species resembling those with which they were familiar, and instructed the Indians in their use.

But in the large the folk medicine of such a Mexican village as Tepoztlan is probably more Indian than European. The Aztecs particularly had a vast knowledge and practice of herbal medicine. The extensive list of Hernandez and the frequent references in Sahagun and the other early writers testify to this, as does equally the great body of plant lore of the contemporary Mexican population. Among the Aztecs there was something of a systematic view of disease and its treatment; there was more than one deity presiding over special forms of sickness, that had to be propitiated.

The information embodied in the following list was obtained largely from one informant, a woman of middle age. She had had a little schooling, but her life was one entirely without influence of the written word; she represented the average run of folk-culture of the town. From her were obtained the names and uses of one hundred and five local medicinal plants. (About half of these descriptions were identified with botanical names and appear below.) It is clear that the information of this one person was by no means exhausted. Yet her knowledge was probably not unusually great; she did not assume to be a *curandera* (*Tepahtiani*); as she put it, she did not "know how to boil" (*sabe hervir*). Many of her ethnobotanical items were checked against the knowledge of other persons; sometimes additional but very rarely contradictory information was obtained. The folk knowledge of the village is fairly consistent.

In the list below the Spanish name precedes the Nahuatl term for each plant. A dash in either position indicates that the informant knew no equivalent in the other language. The Nahuatl names, transcribed by a person without phonetic training, probably contain errors. The aspirate or fricative following a vowel which Spanish grammarians indicate with the *saltillo* accent is here indicated with the letter "h." An asterisk indicates that no actual specimen was identified but that the plant is sufficiently notorious to be included.

SELAGINELLACEAE

1. SELAGINELLA CUSPIDATA Spring.

——— *Tepechayohtli* ("chayote of the mountains"). A boiled infusion of this plant is taken internally for a disease of pregnancy known as *necaxanilli* ("loosening" of the female organs), in order, it is said "to fix the placenta."

AMARYLLIDACEAE

2. *POLIANTHES (TUBEROSA L.)

Azucena. Omixochitl. This plant does not grow in Tepoztlan, but is imported to combine with a species of *Laelia* for a use described under the next following name. The plant is probably the same as that known under this name to the ancient Aztecs. The name means "bone flower" and refers perhaps to its color.

ORCHIDACEAE

3. LAELIA *sp.*

——— *Tzacxochitl.* The pseudobulb of this plant is ground with that of *Polianthes* and boiled with sugar and chocolate. The resulting potion is taken by a pregnant woman to prevent the abortion which would otherwise follow when she conceives a sudden appetite that she is unable to satisfy. "All of a sudden she wants to eat something; she cannot get it; so she takes *tzacxochitl* so that the child does not fall."

The plant does not grow in Tepoztlan itself, but is obtained from the *tezcal*, a rocky area on the slopes of the mountain.

URTICACEAE

4. PARIETARIA PENNSYLVANICA Muhl.

Tripa de Judas. Tepanzozmahtli. Relatives of this plant, some of which are doubtless called by this same Spanish name, "the guts of Judas" are eaten as greens in Europe. In Tepoztlan the entire plant is eaten, boiled, as a remedy for "internal inflammations." It also enters into remedial compounds; one such is described below under no. 60, *Chrysanthemum parthenium* (L.) Bernh.

AMARANTHACEAE

5. IRESINE INTERRUPTA Benth.

——— *Tlatlancuaye.* The plant is ground up and steeped with other herbs and placed on the lungs and abdomen to reduce the fevers. One such recipe includes rose leaves, wine and coriander.

PAPAVERACEAE

6. BOCCONIA ARBOREA S. Wats.

Gediondillo. ——— A piece of the leaf is plastered on the temple with soap to cure headache. Other plants are sometimes used, and quite commonly a patch of porous plaster.

CRUCIFERAE

7. LEPIDIUM DENSIFLORUM Schrad.

Lantejilla.——— As with other crucifers, the stinging taste of this plant probably suggested its local use. It is steeped in alcohol and placed on the chest to cure a cold.

LEGUMINOSAE

8. CAESALPINIA PULCHERRIMA (L.) Swartz.

Flor de camaron. ——— This plant of wide distribution, known in English-speaking countries as "Barbados Pride." "Flower Fence," "Dwarf Poinciana," etc., is known in Tepoztlan as "shrimp flower." The leaves are boiled with the flowers of the *cabellito de angel* tree (probably *Ceiba pentandra* (L.) Gaertn.), with manzanillos, raisins, licorice and a fragment of armadillo shell to prepare a remedy, applied externally, for whooping cough.

9. CASSIA LAEVIGATA Willd.

Guajillo. Yehcapahtzin. The meaning of the Nahuatl term is "wind-medicine." Perhaps this is in reference to the fact that it is used for troubles of the respiratory tract. The plant is ground in alcohol with *Senecio salignus* DC., and the infusion rubbed on the chest.

10. ERIOSEMA GRANDIFLORUM (S. & C.) Seem.

Guayabillo. ——— An infusion of the leaves is used to wash sore feet.

11. MUCUNA sp.

Ojo de venado. ——— The seed of this tree, its appearance suggesting the local name "deer's eye," is widely worn in Mexico as a charm. The tree does not grow in Tepoztlan but the seeds are imported for sale. In many parts of Mexico the seeds are worn as a charm against the evil eye, but in Tepoztlan they are worn to keep off the evil spirits of the air that cause the disease generally known by the same name, *los aires*, or, in Nahuatl, *Yehyecahuiliztli*. These evil spirits (*yehyecatzitzin*), are an important cause of disease in Tepoztlan, and besides the numerous herbal treatments which appear in this list for troubles so caused, there are many ritualistic treatments, as well as an elaborate technique for propitiating the malevolent spirits. The *Mucuna* seeds are generally perforated, and bits of colored yarn are put through the holes. Bright-colored yarn is commonly employed in many connections to propitiate *los aires*.

RUTACEAE

12. RUTA GRAVEOLENS L.

Ruda. ——— This European plant with widespread popular remedial associations was introduced into Tepoztlan together with its therapeutic reputation. A recipe there collected provides that the plant be boiled with *Salvia microphylla* H. B. K. and an unidentified plant, apparently a mint (according to Standley), called locally *poleo del monte* or *huatlaxictzi*. The infusion is taken for abdominal pains. The plant is also used to wash persons affected by *los aires* (described under no. 59, *Piqueria trinervia* Cav.).

13. CITRUS AURANTIFOLIA (Christm.) Swingle.

Flor de limon. "Limonxochitl." Lime flowers boiled in water with cinnamon and sugar added form one of the many remedies for a disease known as *la mohina* (fretfulness; peevishness). This disease is characterized by persistent anger or ill-temper. There are a number of such strong emotional states which are considered and treated as diseases in rural Mexico. In *la mohina* various warm flavored drinks are given to soothe the patient.

MALPIGHIACEAE

14. THRYALLIS GLAUCA (Cav.) Kuntze.

——— *Xaxaxacotic.* This plant, together with *Hypericum pratense* Schlecht and two unidentified plants known as *huitlatenaxihuitl* and *ihilacatzihuitl*, is boiled and administered to pregnant women suffering from a dis-

ease called *costumbre blanca* ("white menses") or *iztaccocoliztli* ("white sickness"). This remedy is also administered for the different sickness known as *necaxanilli*, referred to under no. 1, *Selaginella cuspidata* Spring.

EUPHORBIACEAE

15. *Ricinus communis L.

Digerillo. Axaxaxoxihuitl. The leaves are boiled and administered internally for fevers. The informants knew no remedial use of the seeds, but said that the flowers, when dry, are pressed and the oil extracted for burning.

ANACARDIACEAE

16. Schinus molle L.

Pirun. ——— This common tree, introduced from Peru, enjoys a wide variety of local names and usages, both curative and culinary, in Mexico.[7] In Tepoztlan, among other uses, the leaves are steeped in water and applied to parts of the body affected with rheumatism.

MALVACEAE

17. Malva parviflora L.

Malvas. ——— This plant, of European introduction and folk medicine, is boiled with *Piqueria trinervia* Cav., *Verbena polystachya* H. B. K., and a rose known as *rosa de Castilla*, and the infusion taken internally for fevers.

18. Malvaviscus Conzattii Greenm.

Flor de molenillo. Atlatzompililli. This plant enters into recipes for cough medicines. It is boiled with *Caesalpinia pulcherrima* (L.) Swartz, and a piece of armadillo shell, both of which are often used in other combinations to treat coughs.

GUTTIFERAE

19. *Mammea americana L.

——— *Pitzli.* This word means simply "kernel." It is more particularly applied to the stone of the mamey which, ground, enters into cathartic compounds in Tepoztlan.

HYPERICACEAE

20. Hypericum pratense Schlecht.

Sangrinaria. ——— European relatives of this plant are rich in folk associations. In Tepoztlan the Mexican plant is an ingredient in the remedy described under no. 14, *Thryallis glauca* (Cav.) Kuntze.

CACTACEAE

21. Heliocereus speciosus Britton & Rose.

——— *Ahuaxochitl.* The name, meaning simply "thorn-flower," was doubtless applied to many cacti. The flowers of this species are boiled, and the infusion taken internally for colds.

[7] Paul C. Standley. *Trees and shrubs of Mexico.* Contr. U. S. Nat. Herb. **23**: 661. 1923.

LYTHRACEAE

22. HEIMIA SALICIFOLIA (H. B. K.) Link.

Yerba jonequil. Xonecuilli. This herb is ground up in alcohol and applied very hot for rheumatism, as one takes the steam-bath in the *temazcal,* (the pre-Columbian sweat-house still in general use throughout rural Mexico.) Hernandez has a "*xonecuilpahtli*" which he says was used as a remedy for colds, but it is not possible to identify his description.

PUNICACEAE

23. PUNICA GRANATUM L.

Granada. ——— The leaves of the European pomegrante are used as a wash for the lips when they are affected by a disease characterized by whiteness of the lips and known as *camapalaniliztli* ("rotten mouth"). The leaves of the guayaba (*Psidium guajaba* L.) are added and both roasted and ground before making the infusion.

OENOTHERACEAE

24. OENOTHERA MEXICANA Spach.

Yerba del golpe. ——— As its name indicates, this plant is used for bruises. An infusion is made and minor lesions are washed in it.

UMBELLIFERAE

25. PEUCEDANUM GRAVEOLENS (L.) Benth & Hook. (Syn: *Anethum graveolens* L.)

Hinojo. ——— This European plant forms an ingredient in recipes for remedies taken internally to reduce restlessness during fevers. In one such recipe the following are boiled together with this plant: *Flor de tilia* (*Tilia* sp.); *flor de manita* (not identified); *flor de nacahuite* (*Solanum fontanesianum* Dunal); *la peonia* (*Peonia* sp.); nutmeg; cinnamon; and magnesia powder.

PRIMULACEAE

26. ANAGALLIS ARVENSIS L.

Coralillo. ——— The leaves of this European plant are boiled and applied to inflammations.

OLEACEAE

27. *FRAXINUS sp.

Fresno. ——— The leaves of the ash are mixed with wine and applied as a poultice for headache.

LOGANIACEAE

28. BUDDLEIA SESSILIFLORA H. B. K.

Lengua de vaca. Pahtlaxoxoctic. The Nahuatl name of this plant means "green medicine." It is common in Tepoztlan and used for a variety of ailments.[8] The leaves are applied to the lungs to reduce fever. Mixed with suet the leaves are applied to the gums as a poultice for toothache. The plant also has a (probably purely magical) use in connection with cookery. Tortillas are cooked on a flat clay griddle, the *comal.* Some of the leaves of this

[8] As elsewhere in Mexico. See STANDLEY, Contr. U. S. Nat. Herb. **23**: 1145. 1924.

plant are ground in *nejacote* (*nexacotl* or *nexatl*—the water in which corn is cooked with lime). Lime is added to these ground leaves and the preparation rubbed on both faces of the *comal* the first time the *comal* is used. Otherwise it is said the *comal* would break. Sometimes, when the *comal* is used thereafter, the preparation is rubbed on the upper face only.

POLEMONIACEAE

29. BONPLANDIA GEMINIFLORA Cav.

——— *Tetzotzo.* This plant is boiled together with *Solanum nigrum L.*, and the infusion taken as a purge. *Verbena polystachya* H. B. K. may also be added.

30. LOESELIA MEXICANA (Lam.) Brand.

Espinoncillo. ——— This plant does not grow in Tepoztlan but is brought in from near by Cuernavaca. The leaves are boiled and the infusion taken as a purgative in fevers.

HYDROPHYLLACEAE

31. WIGANDIA KUNTHII Choisy.

Flor de chichicascle. Tzitzicaztli or *pahpatlanuac.* The leaves are ground and boiled and the infusion taken for abdominal pains.

BORAGINACEAE

32. BORAGO OFFICINALIS L.

Boraja. ——— This European plant is steeped in water and the infusion drunk to cool fevers.

33. TOURNEFORTIA DENSIFLORA Mart. & Gal.

Yerba rasposa. ——— The leaves are rubbed on blisters. The scabrous character of the leaves suggests a counter-irritant.

VERBENACEAE

34. VERBENA POLYSTACHYA H. B. K.

Yerba de San Jose. Zanhuanaxictzi. The Nahuatl name of this plant is of course a hybrid term. It is puzzling to find a plant referred to in one of two idioms in current use as Saint Joseph's plant and in the other as the plant of Saint John. A use is described in connection with no. 17, *Malva parviflora* L.

35. LIPPIA DULCIS Trev.

Yerba dulce. ——— Widely known in Mexico under this name, in Tepoztlan the plant is boiled with the flowers of a tree, probably *Ceiba pentandra* (L.) Gaertn., (known as *cabellito de angel* or *xiloxochitl*), and manzanillos to make a remedy applied externally for coughs.

LABIATAE

36. OCIMUM MICRANTHUM Willd.

Albahaca. ——— A little of this mint is placed in the ear to stop earache.

37. SALVIA MEXICANA L.

——— *Tlapachichin.* A use of this plant is described under no. 54, *Viguera grammatoglossa* DC.

38. SALVIA MICROPHYLLA H. B. K.

Mirto. ——— A use of this plant is described in connection with no. 59, *Piqueria trinervia* Cav.

39. HEDEOMA PIPERITA Benth.

Tabajillo ——— This plant is boiled with brown sugar and the liquid taken internally for abdominal pains.

SOLANACEAE

40. NICOTIANA TABACUM L.

Tabaco cimarron. Cuahuihitl. The Nuhuatl form given in Simeon's dictionary and elsewhere is *cuauietl*, but the local informant gave the form indicated above. The remedial use in Tepoztlan is of a boiled infusion as a wash to the abdomen for abdominal pains.

41. SOLANUM FONTANESIANUM Dunal.

Flor de nacahuite. Nacahuixochitl. The plant is boiled and the liquid taken internally for cough.

42. SOLANUM MADRENSE Fernald.

Flor de clamaclancle. Tlamatlantli. This plant, boiled and mixed with alcohol, is used as a remedy when a nursing baby vomits. The mother washes her breasts with the preparation and also takes a little internally. Then the child is allowed to nurse. A suggestion by the informant that the trouble came from teething tempts the writer, inexperienced in Nahuatl etymologies, to derive the local name from a Nahuatl root meaning "to quiet" and the word *tlantli* (teeth).

43. SOLANUM NIGRUM L.

Yerba nora. Tohonechichi. Both the Spanish and the Nahuatl names are common in Mexico for species of *Solanum*. This one in Tepoztlan is boiled and mixed with alcohol and applied externally for inflammations and swellings. It is also used as a wash to cool fevers.

44. DATURA CANDIDA L.

Florefundia (*Florepondia*) or *Bomba.* ——— The petals are coated with grease and placed on the gums to alleviate toothache.

45. *LYCOPERSICUM ESCULENTUM Mill. (Syn: *Solanum lycopersicum* L.)

Jitomate. Xitomatl. An infusion of tomato leaves is applied to granular eruptions.

SCROPHULARIACEAE

46. CASTILLEJA ARVENSIS C. & S.

Saumyate. Catoxictzi. European species also have uses in folk medicine. The Tepoztlan use is described in connection with no. 59, *Piqueria trinervia* Cav.

ACANTHACEAE

47. JACOBINIA SPICIGERA (Schl.) Bailey.

Muicle. ——— This name is apparently a corruption from Nahuatl, but the informants regarded it simply as a Spanish term. Standley[9] gives several Mexican remedial uses and also mentions its employment as a dye. In Tepoztlan the plant is boiled in water with sugar and taken by pregnant women. It is one of a number of plants which are collected and brought to Mexico City to sell there.

CAPRIFOLIACEAE

48. SAMBUCUS MEXICANA Presl.

Sauca. ——— A use of elder is indicated under no. 55, *Bidens leucantha* (L.) Willd.

[9] STANDLEY. Contr. U. S. Nat. Herb. **23**: 1345. 1926.